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# New York EDDS Site Transportation Cost Analysis for the Pooling Phase April - September 1989

OPERATIONS RESEARCH AND ECONOMIC ANALYSIS OFFICE

DEPARTMENT OF DEFENSE

DEFENSE LOGISTICS AGENCY

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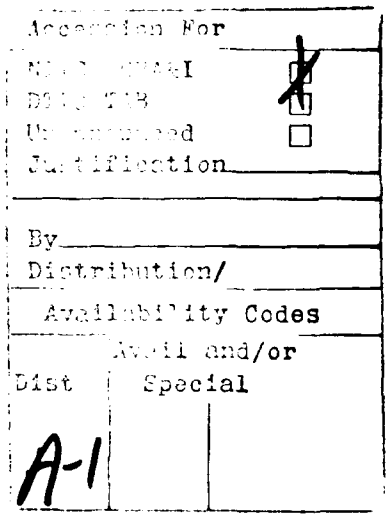


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**July 1990**

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# FOREWORD

The New York Enhanced DLA Distribution System (EDDS) Site Pooling Study is an analysis of the cost effectiveness of the EDDS pooling operations at the New York EDDS site in comparison with direct shipment to the customer. According to the pooling concept, shipments generated at a depot for delivery to a common geographical area are combined into truckload lots for shipment to the EDDS site. At the EDDS site shipments from one or more depots are consolidated for transshipment to like destinations. The consolidated shipments are delivered short-distances, in larger, less-than-truckload or truckload lots to the ultimate customer.

Comparison of the cost of EDDS pooling at New York with the cost of direct shipment to the customer showed the financial impact of the first 6 months of operation to be an estimated net dollar loss of $431,441. Analysis showed that shipments were not being consolidated as required for the success of EDDS and that the outbound shipment rates from the New York EDDS site are too high.

Several scenarios were presented and their respective costs calculated to demonstrate under what conditions the EDDS concept can generate savings at the New York EDDS site. Recommendations were made to monitor EDDS site operator performance to ensure that maximum consolidation occurs and to negotiate a reduction in the EDDS outbound pooling rates to a level that is competitive with the depots' Guaranteed Traffic Rates.

Christine L. Gallo.

CHRISTINE GALLO
Deputy Assistant Director
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## EXECUTIVE SUMMARY

The Defense Logistics Agency's (DLA) Operations Research and Economic Analysis Management Support Office was tasked by the DLA Directorate of Supply Operations, Transportation Division, to provide an analysis of the savings/loss associated with the operation of the pooling phase of the Enhanced DLA Distribution System (EDDS) program for the New York EDDS region.

The objectives of the study were to estimate the cost of direct shipments from the 6 major DLA depots to customers, to calculate the cost of those same shipments under the EDDS program and compare the two.

The scope of the study was limited to shipments to the New York EDDS region from the 6 DLA depots. Data was for the period of April through September 1989, which represents the first 6 months of EDDS operation at New York.

The principal conclusion of the study was the cost in transportation dollars for EDDS pooling phase is estimated to have exceeded the cost of direct shipment by $431,441 for the 6-month period studied.

Five different scenarios were proposed and examined to gain insight into the program changes required to produce a savings in transportation dollars at the New York EDDS site for pooled shipments. The one scenario producing modest savings, compared with direct shipment to the customer, was using the rate structure in effect for the Mechanicsburg Depot at the New York EDDS site with 3 days consolidation of shipments.

Recommendations were to maximize consolidation performance at the EDDS site and to negotiate a reduction in pooling rates to obtain a rate structure similar to that in effect at Defense Depot Mechanicsburg, PA.

I. INTRODUCTION. The Defense Logistics Agency's (DLA) Operations Research and Economic Analysis Management Support Office was tasked by the DLA Directorate of Supply Operations, Transportation Division, to provide an analysis of the savings/loss associated with the operation of the pooling phase of the Enhanced DLA Distribution System (EDDS) program for the New York EDDS region.

A. Background

The EDDS concept is made up of two transportation systems, Depot-to Customer (Pooling) and Vendor-to-Depot (Consolidation):

1. Depot-to-Customer (Pooling). This system will utilize the 5 commercial and 6 DLA EDDS sites. The first stage of EDDS was implemented with the establishment of the first 2 commercial operating EDDS sites in Los Angeles in December 1988 and New York in March 1989. The commercial EDDS sites in Chicago, Dallas, and Jacksonville will become operational in 1990. Pool distribution will be completed with the projected start up of the DLA sites in the fall of 1991.

2. Vendor-to-Depot (Consolidation). This system will also utilize the 5 commmercial and 6 DLA depot EDDS sites. Vendor consolidation is commencing at several sites including Los Angeles, New York, Chicago, Dallas, Jacksonville, Defense Depot Ogden, Utah, and Defense Depot Tracy, California. Full vendor consolidation is expected by fall 1991.

The EDDS program is believed to have the potential of generating a DLA-wide savings of $30 million per year. Depot-to-customer savings were predicted as $16 million and vendor-to-depot savings as $14 million. These savings are generated from the reduced transportation costs associated with the consolidation of Less-than-Truckload (LTL) shipments into Truckload (TL) shipments. Depot-to-customer savings at the New York site alone were predicted to be in excess of $1.3 million. The original study rated shipments using a rating program that used both parcel and commercial common carrier rates. First leg Guaranteed Traffic Program Rates were used for Truckload. Shipments were held for 3 days at the EDDS site then shipped. Projected consolidation was based upon date and Destination Cross Reference (DCR) addressing codes. [1]

The principal purpose of EDDS is to reduce transportation costs while simultaneously maintaining the required level of customer service. Information is needed to estimate the magnitude of savings/loss DLA is experiencing as a result of the implementation of the depot pooling phase of EDDS. Such information can be used to identify changes required to improve operations.

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1. Myers, C., Enhanced DLA Distribution System (EDDS) "Pooling", DLA-LO Report No. 88-19, June 1988.

B. Problem Statement. Determine the magnitude of the savings/loss in transportation dollars that DLA is obtaining as a result of the implementation of the pooling phase of EDDS for the New York EDDS region.

C. Objectives

1. Calculate the cost of shipping direct under the Guaranteed Traffic Program (GTP) to customers in the New York EDDS region.

2. Calculate the cost of those same shipments under the EDDS pooled distribution method.

3. Compare the cost results of direct shipment with the EDDS cost results.

D. Scope

1. The depot shipment data was limited to the New York EDDS region for the third and fourth quarters of fiscal year 1989.

2. The EDDS site data consisted of all "pooled" data on the New York EDDS site files available (April through September 1989).

3. Order-ship times and on-time performance were not addressed; these issues will be addressed in a separate study.

E. Assumptions. The following assumptions were made for building transportation units for direct shipment to the ultimate consignee.

1. Direct shipments could be developed from the EDDS site files by aggregating data by inbound Government Bill of Lading (GBL) and the consignee.

2. All shipments were moved by the prime carrier for the purpose of computing transportation cost.

## II. CONCLUSIONS AND RECOMMENDATIONS

### A. Conclusions

**1. The cost in transportation dollars for EDDS pooling phase is estimated to have exceeded the cost of direct shipment by $431,441 for the 6-month period studied.**

**2. The level of consolidation at the EDDS site has been low. The volume of freight moving through the EDDS site has increased steadily over the 6-month period while the average weight for outbound GBLs has remained relatively constant. Secondly, the average hold time at the EDDS site varied; however, there was no corresponding affect on the average weight of a shipment as observed in the actual shipment data.**

3. A simulation to increase the average weight of the outbound shipments illustrated that increased shipment weight does not significantly reduce the cost of pooling at the New York EDDS site under the current rate structure.

4. By increasing the level of consolidation to 3 days and using a rate structure similar to the rate structure in effect at Defense Depot Mechanicsburg, PA., EDDS can achieve a modest savings of $70,520 over the 6-month period.

B. Recommendations

o Maximize consolidation performance at the EDDS site.

o Negotiate a reduction in pooling rates to obtain a rate structure similar to that in effect at Defense Depot Mechanicsburg, Pa.

## III. METHODOLOGY

### A. Calculation of Cost of Direct Shipments

1. The rates to estimate the cost of shipments without EDDS implementation were obtained from the current Guaranteed Traffic agreements in use at each of the 6 DLA depots. A data call was made to obtain the applicable tenders.

2. Based on the first previously stated assumption all shipments on the EDDS site tapes were aggregated by inbound GBL and consignee. Consignee may be identified by either the Destination Cross Reference Code (DCR) or Department of Defense Activity Address Code (DODAAC). Hereafter, DCR and DODAAC will be referred to as DCR. Using the rates obtained in III.A.1., all shipments were rated to obtain an estimate of the cost of moving LTL traffic direct to the customer.

### B. Calculation of Cost of EDDS Shipments

1. Costing of Shipments From Depots To EDDS Site. Using the Material Release Order (MRO) files for the third and fourth quarters of fiscal year 1989 an average rate per hundredweight for shipping to the New York EDDS site was obtained for each depot. After aggregating the weight from the EDDS site files by depot and inbound GBL the average rate per hundredweight was applied to obtain an estimate of the transportation cost to the EDDS site.

2. Costing of Shipments From EDDS Site To Customers. Shipments were rolled-up by outbound GBL from the EDDS site to obtain shipment weight. Shipments were rated by weight for the applicable mileage group using the rates negotiated for the New York EDDS site pooled shipments.

## IV. ANALYSIS

### A. Results

Table 1 shows the results of the transportation cost comparison between direct shipment and the EDDS program. The columns of the table are arranged according to depot: Mechanicsburg, PA, (DDMP), Tracy, CA, (DDTC), Columbus, OH, (DDCO), Memphis, TN, (DDMT), Richmond, VA, (DDRV), and Ogden, UT, (DDOU). The "Direct Delivery Cost Estimate" is the cost of shipping from the depots direct to the customer. The next section breaks down the EDDS cost by inbound cost (transportation cost from depots to EDDS site), and the EDDS site cost (cost of consolidating shipments and transportation cost). The "Cost Analysis" section shows the net savings/loss. This format is also used to analyze the effect of various scenarios.

The estimated loss for the 6-month period April through September 1989 is $431,441. The direct cost of $572,686 is estimated to be the cost of moving freight under the existing GTP agreements in effect at the 6 major DLA depots. The cost of the EDDS program is composed of the inbound transportation cost of $153,857 for the first leg (moving freight from the depots to the EDDS site) and the total EDDS site cost of $850,270 for the second leg (moving freight from the EDDS site to regional customers). The cost of this second transportation leg is clearly the principal contributor to the transportation cost of the EDDS program. Interestingly, Table 1 shows that the second leg cost alone exceeds the direct cost for the period. This is surprising since the rates for the shorter distances composing the second leg should be lower than the rates for the longer distances which direct shipments must traverse.

Figure 1 reflects the relationship between the monthly dollar loss and the volume of freight handled at the EDDS site. The graph shows that the monthly loss is proportional to the volume of freight moved through the EDDS site. The loss was the smallest in April when the least amount of freight was handled and the loss was the largest in August when the volume of freight moved was at its highest level. The significance of this relationship is that increasing volume through the EDDS site will not result in any savings.

The next two figures present the relationship of volume and time with the average weight of an outbound GBL. Figure 2 displays the average weight of a GBL and the volume of freight on a monthly basis. The bar graph shows that the volume of freight moving through the EDDS site has tended to increase over the 6 month period. The line graph showing the average monthly weight for an outbound GBL, in contrast, is relatively flat throughout the period, fluctuating between 680 and 918 pounds. This fact is significant because average shipment size never progresses to higher weight categories having lower rates. Figure 3 shows the average weight for an outbound GBL and the average hold time at the EDDS site. The trends do not show the relationship expected between these two variables. For example,

Table 1

DIRECT COST VS EDDS COST

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 4186 | 171 | 993 | 1104 | 3752 | 449 | | 10655 |
| Cost | $226,733 | $10,433 | $54,208 | $60,331 | $194,136 | $26,845 | | $572,686 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 189 | 37 | 53 | 74 | 91 | 89 | | 533 |
| Cost | $44,825 | $6,893 | $17,250 | $29,696 | $40,790 | $14,403 | | $153,857 |
| EDDS Site Cost Consolidation | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | 5561520 | |
| Cost | $42,746 | $898 | $5,249 | $6,027 | $28,859 | $2,424 | $86,204 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 6966 | |
| Transportation Cost | | | | | | | $764,066 | |
| Total EDDS Site Cost | | | | | | | | $850,270 |
| Total Through-Put EDDS Cost | | | | | | | | $1,004,127 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - EDDS) | | | | | | | | ($431,441) |

() - Loss

as hold time increased from May to June, an increase of approximately one day, the change in the average weight of a GBL would be expected to increase parallel to this increase in hold time. In fact no such increase in average weight occurred, with the average weight remaining relatively unchanged.

Figure 1
Dollar Loss vs Freight Volume
New York EDDS Site

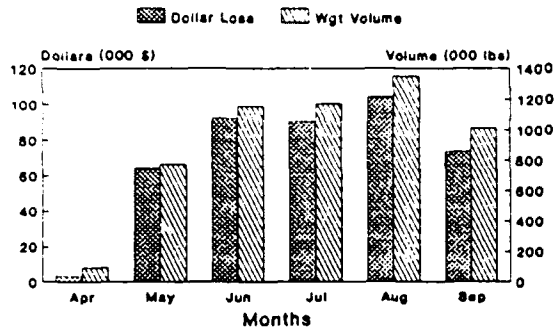



Figure 2
Avg Weight vs Freight Volume
New York EDDS Site

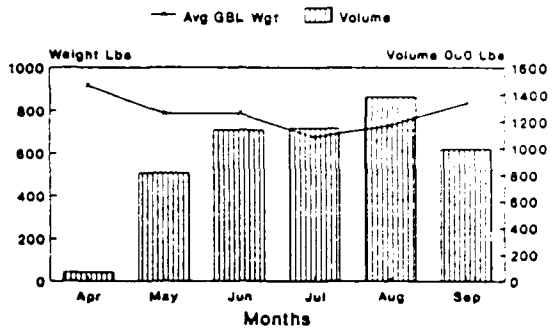



Figure 3
Avg Weight vs Avg Hold Time
New York EDDS Site

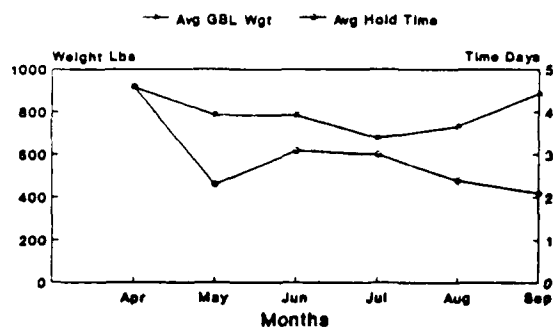
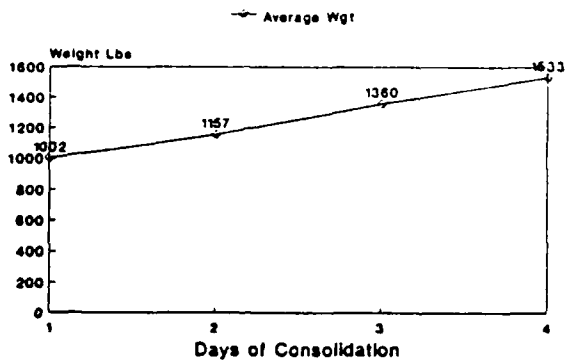



Figure 4
Simulation Consolidation Results

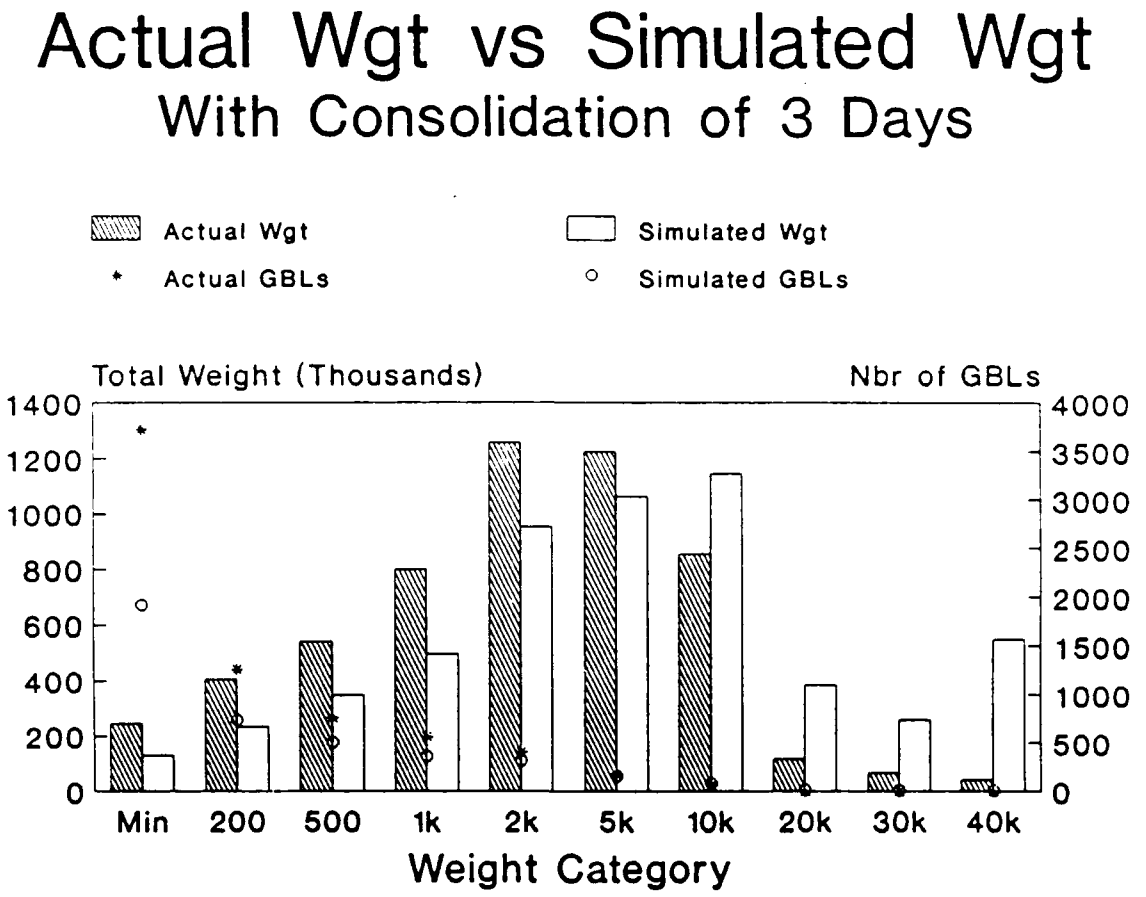



A program was developed to simulate the building of outbound shipments at the EDDS site. This FORTRAN program built shipments for a specific DCR until an assigned consolidation period, e.g. 3 days, was reached. Consolidation time was defined as EDDS shipping date - EDDS receipt date. Figure 4 presents the result of a series of simulation runs. Average weight was plotted against consolidation time for the simulated shipments.

As consolidation time increases at the EDDS site, average shipment size becomes larger. This expected relationship stands in contrast to the lack of any clear relationship between these variables in the actual shipment data.

The paired bar graph, Figure 5, presents the output of the 3-day consolidation run and displays it along with the actual shipment data, according to weight category. This paired bar graph shows that the actual shipment weights are concentrated primarily in the lower weight categories. In contrast the simulated shipment weights are concentrated primarily in

Figure 5




the upper weight categories. The actual number of GBLs and the simulated number of GBLs are overlayed for each weight category. The figure shows that by consolidating for a 3-day period more weight can be shipped in the higher weight categories. The advantage of moving more weight in the heavier weight categories is that lower truckload rates may be applied. The numbers used to generate Figure 5 are shown in Table 2.

Table 2

COMPARISON OF ACTUAL SHIPMENT DATA
TO SIMULATED SHIPMENT DATA

| Weight Category | ----Actual---- Total Weight | Nbr GBLs | ---Simulated--- Total Weight | Nbr GBLs |
|---|---|---|---|---|
| Min | 245006 | 3726 | 129743 | 1916 |
| 200 | 405570 | 1262 | 233395 | 730 |
| 500 | 542492 | 762 | 349464 | 501 |
| 1K | 799851 | 564 | 495435 | 361 |
| 2K | 1257539 | 404 | 951979 | 309 |
| 5K | 1226522 | 176 | 1063186 | 152 |
| 10K | 855042 | 64 | 1143827 | 85 |
| 20K | 117949 | 5 | 385372 | 16 |
| 30K | 68893 | 2 | 259855 | 8 |
| 40K | 42656 | 1 | 549264 | 12 |
| Total | 5561520 | 6966 | 5561520 | 4090 |

B. Scenarios

To gain insight into the program changes required to make the EDDS pooling phase cost effective at the New York EDDS site, 5 scenarios were generated. The cost of each scenario was calculated and compared to the cost of direct shipment to the customer. The first scenario examined was to remove customers who are civilian agencies from the EDDS program.

1. Remove Civilian DODAACS From New York EDDS Program. The first scenario was to compare the cost of direct shipment with the EDDS shipment cost after removing all DODAACS beginning with a number. These DODAACS identify customers who are civilian agencies. The volume of traffic being sent to these customers is not believed to be cost effective for the EDDS program. Table 3 presents the results of eliminating these customers from EDDS. The total weight shipped dropped by 35,932 pounds from 5,561,520 pounds to 5,525,588 pounds. Comparing Table 3 to Table 1 it is apparent that both the total direct cost and the total EDDS cost have decreased slightly. The net result is that the loss for the 6-month period is reduced

from $431,441 to $429,445. Because the volume of freight being handled by the EDDS program for these DODAACs is a small fraction of the total volume of freight moving through the EDDS site the effect on the cost effectiveness of EDDS is negligible when these customers are eliminated from the EDDS program.

Table 3

DIRECT COST VS EDDS COST
WITH CIVILIAN DODAACS REMOVED

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2736166 | 57853 | 338346 | 383154 | 1853712 | 156357 | | 5525588 |
| GBLs | 4075 | 170 | 991 | 1087 | 3692 | 439 | | 10454 |
| Cost | $222,385 | $10,392 | $54,127 | $59,436 | $191,775 | $26,465 | | $564,580 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2736166 | 57853 | 338346 | 383154 | 1853712 | 156357 | | 5525588 |
| GBLs | 187 | 37 | 53 | 74 | 91 | 89 | | 531 |
| Cost | $44,474 | $6,884 | $17,233 | $29,260 | $40,611 | $14,398 | | $152,860 |
| EDDS Site Cost Consolidation | | | | | | | | |
| Weight | 2736166 | 57853 | 338346 | 383154 | 1853712 | 156357 | 5525588 | |
| Cost | $42,411 | $897 | $5,244 | $5,939 | $28,733 | $2,424 | $85,647 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 6771 | |
| Transportation Cost | | | | | | | $755,518 | |
| Total EDDS Site Cost | | | | | | | | $841,165 |
| Total Through-Put EDDS Cost | | | | | | | | $994,025 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - EDDS) | | | | | | | | ($429,445) |
| () - Loss | | | | | | | | |

2. Breakeven Reduction In Pooling Rates. This second scenario identifies the magnitude of discount required for EDDS to breakeven when compared with direct shipment to customer. Table 4 presents a comparison of the cost of direct shipment to the EDDS cost with a 51 percent across-the-board reduction in pooling rates. The results show that EDDS breaks even when such a reduction is applied.

Table 4

DIRECT COST VS EDDS COST
WITH 51 % REDUCTION IN POOLING RATES

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 4186 | 171 | 993 | 1104 | 3752 | 449 | | 10655 |
| Cost | $226,733 | $10,433 | $54,208 | $60,331 | $194,136 | $26,845 | | $572,686 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 189 | 37 | 53 | 74 | 91 | 89 | | 533 |
| Cost | $44,825 | $6,893 | $17,250 | $29,696 | $40,790 | $14,403 | | $153,857 |
| EDDS Site Cost Consolidation | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | 5561520 | |
| Cost | $42,745 | $898 | $5,249 | $6,027 | $28,859 | $2,424 | $86,204 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 6966 | |
| Transportation Cost | | | | | | | $330,426 | |
| Total EDDS Site Cost | | | | | | | $416,630 | |
| Total Through-Put EDDS Cost | | | | | | | | $570,487 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - EDDS) | | | | | | | | $2,199 |
| () - Loss | | | | | | | | |

3. Increase Consolidation. Table 5 displays the cost comparison between the direct shipment cost and the cost of the EDDS program assuming 3 days of consolidation and the current New York pooling rates. By consolidating, the total number of outbound GBLs has been reduced from 6966 to 4090 (Table 2). The figure shows that the cost of the second transportation leg of EDDS has been reduced by approximately $79,000 but the EDDS program is still losing money in comparison to the direct program. This disappointing result can be understood by referring to Table 6.

Table 5

DIRECT COST VS EDDS COST
WITH 3 DAYS CONSOLIDATION

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 4186 | 171 | 993 | 1104 | 3752 | 449 | | 10655 |
| Cost | $226,733 | $10,433 | $54,208 | $60,331 | $194,136 | $26,845 | | $572,686 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 189 | 37 | 53 | 74 | 91 | 89 | | 533 |
| Cost | $44,825 | $6,893 | $17,250 | $29,696 | $40,790 | $14,403 | | $153,857 |
| EDDS Site Cost | | | | | | | | |
| Consolidation | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | 5561520 | |
| Cost | $42,745 | $898 | $5,249 | $6,027 | $28,859 | $2,424 | $86,204 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 4090 | |
| Transportation Cost | | | | | | | $685,500 | |
| Total EDDS Site Cost | | | | | | | $771,704 | |
| Total Through-Put EDDS Cost | | | | | | | | $925,561 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - EDDS) | | | | | | | | ($352,875) |
| () - Loss | | | | | | | | |

Table 6 shows the pooling rates for New York and Los Angeles. Minimum weight indicates the minimum weight in the weight category, e.g. "999", includes all shipment weights from 999 pounds to 1998 pounds. The rates are expressed as cents per hundredweight. Comparing the two rate structures, the key observation is that there is comparatively little advantage for consolidating at the New York site. The pooling rate structure for Los Angeles shows a distinct drop in the rate per hundredweight at 4999 pounds and above. In comparison, the New York rate structure is set forth in such a manner that no such comparable drop in rates is offered. By consolidating at New York, cost is reduced but not significantly because there is little downward progression in the rate structure as shipment weight is increased.

Table 6

COMPARISON OF EDDS SITE POOLING RATES
NEW YORK VS LOS ANGELES

| | New York | | | Los Angeles | | |
|---|---|---|---|---|---|---|
| Minimum Wgt (Lbs) | 1-200 Miles | 201-400 Miles | > 400 Miles | 1-200 Miles | 201-400 Miles | > 400 Miles |
| 99 | 3000 | 3200 | 3200 | 3520 | 3520 | 3960 |
| 199 | 1553 | 1970 | 2290 | 1840 | 1840 | 2070 |
| 499 | 1428 | 1809 | 2111 | 942 | 1376 | 1738 |
| 999 | 1368 | 1400 | 1656 | 942 | 1230 | 1554 |
| 1999 | 1301 | 1349 | 1587 | 849 | 1085 | 1371 |
| 4999 | 1287 | 1300 | 1496 | 483 | 589 | 689 |
| 9999 | 1157 | 1261 | 1383 | 396 | 497 | 573 |
| 19999 | 1108 | 1220 | 1333 | 295 | 337 | 398 |
| 29999 | 1097 | 1198 | 1299 | 187 | 268 | 319 |
| 39999 | 1068 | 1140 | 1212 | 146 | 235 | 280 |

4. Increase Consolidation & Use Los Angeles EDDS Pooling Rates. To explore other possible changes in the pooling rate structure, the rate structure in effect at the Los Angeles site was used to rate the shipments built from the 3-day consolidation simulation. Table 7 shows the results of this effort. The second leg cost at the New York EDDS site is considerably reduced. Increasing the consolidation effort to 3 days and using a rate structure similar to that in effect at the Los Angeles site results in the EDDS cost breaking even with the estimated direct cost.

5. Increase Consolidation & Use Mechanicsburg's Rates. Table 8 presents the results of the scenario of applying the Mechanicsburg depot GTP rates to the shipments coming out of the New York EDDS site. This cost represents a 47.6 percent reduction in the cost obtained under the current pooling rate structure at New York (Table 1). However, compared to the cost of direct shipment, the new total cost of $599,388 still represents a loss of $26,702.

Table 7

DIRECT COST VS EDDS COST
WITH 3 DAYS CONSOLIDATION AND LOS ANGELES POOLING RATES

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 4186 | 171 | 993 | 1104 | 3752 | 449 | | 10655 |
| Cost | $226,733 | $10,433 | $54,208 | $60,331 | $194,136 | $26,845 | | $572,686 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 189 | 37 | 53 | 74 | 91 | 89 | | 533 |
| Cost | $44,825 | $6,893 | $17,250 | $29,696 | $40,790 | $14,403 | | $153,857 |
| EDDS Site Cost | | | | | | | | |
| Consolidation | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | 5561520 | |
| Cost | $42,475 | $898 | $5,249 | $6,027 | $28,859 | $2,424 | $86,204 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 4090 | |
| Transportation Cost | | | | | | | $329,949 | |
| Total EDDS Site Cost | | | | | | | | $416,153 |
| Total Through-Put EDDS Cost | | | | | | | | $570,010 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - EDDS) | | | | | | | | $2,676 |
| () - Loss | | | | | | | | |

Table 8

DIRECT COST VS EDDS COST USING
THE MECHANICSBURG RATES OUT OF THE NEW YORK EDDS SITE

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 4186 | 171 | 993 | 1104 | 3752 | 449 | | 10655 |
| Cost | $226,733 | $10,433 | $54,208 | $60,331 | $194,136 | $26,845 | | $572,686 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 189 | 37 | 53 | 74 | 91 | 89 | | 533 |
| Cost | $44,825 | $6,893 | $17,250 | $29,696 | $40,790 | $14,403 | | $153,857 |
| EDDS Site Cost Consolidation | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | 5561520 | |
| Cost | $42,475 | $898 | $5,249 | $6,027 | $28,859 | $2,424 | $86,204 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 6966 | |
| Transportation Cost | | | | | | | $359,327 | |
| Total EDDS Site Cost | | | | | | | | $445,531 |
| Total Through-Put EDDS Cost | | | | | | | | $599,388 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - EDDS) | | | | | | | | ($26,702) |
| () - Loss | | | | | | | | |

Table 9 presents the results of using Mechanicsburg depot's GTP rates and 3 days consolidation at the New York EDDS site. Under this modification of the above scenario EDDS achieves a modest savings estimated to be $70,520 over the 6-month period.

Table 9

DIRECT COST VS EDDS COST USING THE MECHANICSBURG RATES AND 3 DAYS CONSOLIDATION AT THE NEW YORK EDDS SITE

EDDS POINT: New York, NY

| | DDMP | DDTC | DDCO | DDMT | DDRV | DDOU | | All Depots |
|---|---|---|---|---|---|---|---|---|
| ********** | | | Direct Delivery Cost Estimate | | | | | ********** |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 4186 | 171 | 993 | 1104 | 3752 | 449 | | 10655 |
| Cost | $226,733 | $10,433 | $54,208 | $60,331 | $194,136 | $26,845 | | $572,686 |
| ********** | | | EDDS Cost Estimate | | | | | ********** |
| Inbound Cost | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | | 5561520 |
| GBLs | 189 | 37 | 53 | 74 | 91 | 89 | | 533 |
| Cost | $44,825 | $6,893 | $17,250 | $29,696 | $40,790 | $14,403 | | $153,857 |
| EDDS Site Cost | | | | | | | | |
| Consolidation | | | | | | | | |
| Weight | 2757752 | 57929 | 338672 | 388869 | 1861891 | 156407 | 5561520 | |
| Cost | $42,475 | $898 | $5,249 | $6,027 | $28,859 | $2,424 | $86,204 | |
| Distribution | | | | | | | | |
| No. Outbound GBLs | | | | | | | 4090 | |
| Transportation Cost | | | | | | | $262,105 | |
| Total EDDS Site Cost | | | | | | | | $348,309 |
| Total Through-Put EDDS Cost | | | | | | | | $502,166 |
| ********** | | | Cost Analysis | | | | | ********** |
| Cost Difference (Direct - Cost) | | | | | | | | $70,520 |
| () - Loss | | | | | | | | |

In summary 5 scenarios were generated and the impact of each on the cost of the pooling phase at the New York EDDS site was computed. In two cases (scenarios 2 and 4) the EDDS program breaks even with direct shipment. Scenario 5 shows in what way the EDDS program could be modified in order to produce savings.

# REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

| 1. AGENCY USE ONLY (Leave blank) | 2. REPORT DATE | 3. REPORT TYPE AND DATES COVERED |
|---|---|---|
| | July 1990 | Final |

**4. TITLE AND SUBTITLE**

New York EDDS Site Transportation Cost Analysis for the Pooling Phase April - September 1989

**5. FUNDING NUMBERS**

**6. AUTHOR(S)**

Mark Kleinhenz

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**

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**8. PERFORMING ORGANIZATION REPORT NUMBER**

DLA-90-P90258

**9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)**

HQ Defense Logistics Agency
Cameron Station
Alexandria, VA 22304-6100

**10. SPONSORING/MONITORING AGENCY REPORT NUMBER**

**11. SUPPLEMENTARY NOTES**

**12a. DISTRIBUTION/AVAILABILITY STATEMENT**

Public Release; Unlimited Distribution

**12b. DISTRIBUTION CODE**

**13. ABSTRACT** *(Maximum 200 words)*

The New York Enhanced DLA Distribution System (EDDS) Site Pooling Study is an analysis of the cost effectiveness of the EDDS pooling operations at the New York EDDS site in comparison with direct shipment to the customer. According to the pooling concept, shipments generated at a depot for delivery to a common geographical area are combined into truckload lots for shipment to the EDDS site. At the EDDS site shipments from one or more depots are consolidated for transshipment to like destinations. The consolidated shipments are delivered short-distances, in larger, less-than-truckload or truckload lots to the ultimate customer. Several scenarios were presented and their respective costs calculated to demonstrate under what conditions the EDDS concept can generate savings at the New York EDDS site. Recommendations were made to monitor EDDS site operator performance to ensure that maximum consolidation occurs and to negotiate a reduction in the EDDS outbound pooling rates to a level that is competitive with the depots' Guaranteed Traffic Rates.

**14. SUBJECT TERMS**

Distribution, ~~Pooling~~, ~~Shipments~~, Cost Analysis, ~~New York~~

**15. NUMBER OF PAGES**

29

**16. PRICE CODE**

| 17. SECURITY CLASSIFICATION OF REPORT | 18. SECURITY CLASSIFICATION OF THIS PAGE | 19. SECURITY CLASSIFICATION OF ABSTRACT | 20. LIMITATION OF ABSTRACT |
|---|---|---|---|
| UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | |